

OCTOBER 1969
69SP5

STANDARD-APPROVED
(non-restrictive)

SPECIFICATIONS

FOR

COMPACT SHELVING - ELECTRIFIED

For ARCHITECTURAL Use

25X1A5a1



SPECIFICATION

25X1A5a1

compact Model #69Z1238

General

In general it is the intent of this specification to describe a motor driven record storage shelving system designed for compact storage of records. This type of equipment consists of single or double faced sections of shelving usually 90" high x 36" long x 9" or 12" deep shelves. The preceding dimension shall be altered to accommodate physical characteristics of the space or type of record to be shelved. The shelving shall be attached to a moving platform placed on rails and then driven by an electrical motor through a chain drive. Safety devices shall be provided. Opening of each aisle shall be accomplished by a selector button located on the end of each range.

The shelving shall be a type referred to as steel bracket stack. The shelves shall cantilever from a central column and be readily adjustable without the use of tools or hardware. Ends of each range of shelving shall have finished end panels, and tops shall be provided over each section. Shelves shall be as called for in the schedule. Shelves shall be adjustable every 1" vertically.

Detailed Specifications

RAILS shall be 12 lbs. A.S.C.E. area $IN^2 = 1.18$
Section modulus IN^3 head = .58
Moment of inertia $IN^4 = .55$
LBS/YD(nominal) = 12

Rails shall be level to plus or minus 1 mm.

WHEELS: Free turning wheels shall be 4" diameter, single flange hardened steel (Rockwell C scale 58-62). Axle and drive shafts shall be .750 diameter. Carriage frame shall be made from .187 angle iron 3" x 2" hot rolled structural steel.

BEARINGS: Free wheel bearings shall be an integral part of the wheel. The wheel hub shall serve as the outer race. Bore .750 with a tolerance + .0005. Width shall be 1.63 and shall have eight .437 diameter balls. Basic dynamic load rating in pounds at 33-1/3 RPM - 1200 lbs.

Drive wheels shall be solid steel, bored and broached to accept a 3/16" square key positioned on the drive shaft. Drive shaft to be continuous the length of range.

ELECTRICIAL SPECIFICATION

General Information

This system is designed so that each movable range of shelving is electrically driven by its own motor or motors. Length, height of ranges and weight load determine when two motors per range are required.

Where required, aisle lighting as a part of this system can be provided and data for lighting is included.

Three electrical safety systems are provided and will be described in detail.

For ease of installation and maintenance, all electrical relays and controls are placed in chassis. These are designed for quick removal and replacement. All connections are plug-in type. Each module (group of ranges) will have one master chassis located on the fixed range and an individual chassis on each movable range. For easy maintenance any one of these can be disconnected (unplugged) and replaced in a matter of minutes. All electrical supply outlets should be located at the end of the fixed ranges.

MOTORS: 1/8 HP, 115 volt A.C., 60 cycle, split phase, reversible type. Motor torque 400 inch lbs. per motor at 20 RPM on the output shaft. Motor start and stop controlled by aisle selection switch and a sequence of limit switches. This allows each range motor or motors to start in a sequence thus reducing amperage drawn. Running current is 1.85 amps per motor or 3.70 amps per range. Starting current is 7.61 amps per motor or 15.22 amps per range.

Should any four modules be operated at one time, the amperage drawn would not exceed 88.80 amps; however, this is very improbable.

LIGHTS: Single tube, 40 watt, 115 volt, 4 foot long fixtures with a special engineered polished reflector to produce 50 foot candles at floor level. Amperage is .80 amps for each 8'.

SAFETY SYSTEMS:

1. Illuminated aisle selection switch on end panel at end of range. When aisle selection switch is depressed and is illuminated, no other aisle within a module can be activated. It is necessary to depress the same switch again to turn off the aisle light and enable any other aisle to be activated.
2. Two safety tapes in each aisle. One at waist level and one at floor level. A 12 oz. force on either will activate a safety relay sounding a buzzer and illuminating a red light on the master chassis. At this point all ranges within that module are immediately disabled. The procedure to re-activate is as follows. Key-locked override switch is turned on and the aisle switch of the obstructed aisle can be operated in a jog fashion until obstruction can be removed. The master key switch can then be placed in the automatic selection position to resume conventional operation.
3. Each motor is connected to a manually resettable overload circuit breaker. When an obstruction causes the motor current to exceed a safe level, motor stops. This will also sound the warning buzzer and illuminate a red light on the master panel until the overload condition has been corrected.

Each module is protected by a main circuit breaker (which also serves as the power on-off switch) located on the master chassis.

STEEL BOOKSTACK SPECIFICATION

General Conditions

WORKMANSHIP: Only top quality workmanship shall be acceptable. Framing parts shall be straight, all parts properly aligned and securely fastened, and all fittings neat in every respect. Any connections requiring bolting, welding or riveting shall be neatly done. A commercial or structural steel job will not be considered. Any exposed surface of the installation which may come into contact with shelved material shall be smooth and non-abrasive.

SHOP DRAWINGS: The successful bidder shall, upon request, furnish shop drawings for approval. If corrections are necessary, the Contractor shall submit revised drawings until approved.

INSTALLATION: Installation to be performed as progress of job demands and by experienced and trained mechanics in the employ of the manufacturer.

Materials

All sheet steel used in the bookstack construction shall be that particular grade of full-finished, cold rolled sheet known in the trade as "furniture stock", which shall be free from scale or buckle, and rolled flat and true.

All screws used for assembling of bookstacks shall be cadmium plated.

Bracket Type Shelving

Metal bookstacks shall be of the design known as Bracket Type, with the shelf supporting members consisting of central columns only and the adjustable shelves cantilevered therefrom.

Shelving Uprights

All uprights shall be the Z-14 type of #14 gauge steel and formed with 14 right angle bends. Height shall be 90" overall x 2-1/2" in cross section. Height dimensions shall be altered to accommodate job conditions. The bottom of the uprights shall be fitted with two channel shaped inserts welded to the upright. The inserts shall be pressed into the upright for a distance of 9-1/4" for reinforcement. The inserts shall attach to the base support with two tapered bolts.

Adjustable Shelves

Shelves shall be of one piece of #18 gauge steel with three 90 degree bends at both the front and the back to form hollow squares suitable for use with wire book supports and clip-on type label holders. Each end of the shelf shall be turned down approximately 5/8" to engage in brackets. Each shelf shall be 35-1/2" between end brackets, and the front and rear edges shall have a face of 13/16" with slightly rounded edges. Each shelf shall be so constructed as to support a uniformly distributed load of 40 pounds per square foot with a deflection of 3/16" or less. The depth of the shelves and the number of shelves per section shall be in keeping with the schedule of equipment. Unless otherwise specifically mentioned in the schedule of equipment, the depth of the shelves shall be construed to be

nominal depth, as measured from the center line of the upright to the front edge of the adjustable shelf. The actual depth of the shelf shall be 1" less than the nominal depth. Adjustable shelves must be capable of being moved up or down without removing books by the process of alternately moving the shelf brackets or "walking the shelf."

Divider Type Shelves

Shelves shall provide 35-1/2" of clear filing space and shall cantilever from the center column upright. Shelves shall be #18 gauge and shall be "L" shaped. The shelf depth shall be as called for in the schedule of equipment and the back shall be 5" high. Shelf brackets shall be #16 gauge and each shelf shall be provided with five #18 gauge dividers.

Shelf Brackets

Shelf brackets or end plates for adjustable shelves shall be of #16 gauge steel, of the same depth as the shelf on which they are used, and shall extend not less than 6-1/4" above the top surface of the shelf. The top, front and bottom edges shall be flanged outwards 1/4" continuously to prevent accidental knifing of books. For maximum safety, each bracket shall be formed with not less than a 2-1/4" radius at the top front edge and 1/2" radius at the lower front edge. Shelf bracket shall be provided with two supporting hooks at the top and a safety lug at the bottom. To prevent bracket overlapping, each bracket shall have safety spacers for alignment.

Finished Steel End Panels

Finished end panels shall be furnished and installed where indicated on the drawings. The end panel shall extend the full width of the unit, including the base shelves, and the full height. It shall be pattern rolled #18 gauge steel. The vertical exposed edges shall be rounded to approximately 3/4" radius with a return of not less than 3" parallel to the face of the panel for further stiffening. The panel shall have a flange at the top for additional strength. Overall thickness shall be approximately 1-1/2".

Base Support

The base support shall be #10 gauge hi-tensile strength steel formed into the shape of a "Z". The vertical leg of the "Z" shall be 2-1/2" high and the horizontal legs of the "Z" shall be 1-3/8". The bottom leg shall be drilled to provide a means of attaching to the carriage frame. Two staggered .380 holes shall be provided in the vertical leg for the purpose of attaching to the upright attaching support. The attachment between the base support and the upright attaching support shall be made using two tapered 3/8-16 hex head shoulder bolts 7/8" long. The length of the base support shall be determined by the depth of each range.

Bottom Spreaders

Each section shall be accurately spaced by a #18 gauge bottom spreader 33-1/2" long x 15/16" thick x 6" high. This spreader shall be formed from two channel shapes overlapping and spot welded together. The bottom spreader shall provide the longitudinal stability of each range. Sway braces shall not be acceptable. Bottom spreaders shall engage the uprights with twelve tapered hooks. The hooks shall be 1-1/4" high overall and slotted on a taper to a height of 5/8" from the bottom of the hook. The taper shall assure a positive engagement of the bottom spreader to the upright.

Top Tie Channels

The top of each section shall be spaced by a #18 gauge top tie channel, 33-1/2" long x 1" thick x 2-5/16" high and channel shaped. The top tie channel shall engage the upright with four hooks, similar to the hooks described for bottom spreaders.

Base Shelf

Base shelves shall be the same as adjustable shelves and shall be the depth as called for in the schedule of equipment. Base shelves shall be so constructed to accept hook-on book support and clip-on label holder.

Canopy Tops

Canopy tops shall be #18 gauge steel and shall be the same depth as end panels. The front edge shall be formed and 1-1/8" thick.

Canopy Top and Inverted Shelf Brackets

Canopy tops and inverted bracket shelves shall be supported by #14 gauge brackets. They shall have three hooks and engage the upright slots in the same manner as shelf brackets. Shelves of 15" x 17" depth shall have an angle reinforcement of #11 gauge for adequate support of heavy materials such as bound newspapers.

Finishing

The finish of metal work shall be of the very highest grade and the material in all cases must stand rigid hammer tests without flaking. Each part shall be prepared for painting by a five stage cleaning and phosphatizing process. In the first stage, parts shall be washed with a cleaning solution. This operation shall be followed by a water rinse, next a phosphatizing operation, a water rinse and a final chromic acid wash. Parts shall be passed through a dry-off oven before the application of the finish coat.

The finish coat shall be an alkyd enamel, hot sprayed by electrostatic process to insure good even coverage. This shall be followed by a 30 minute bake at 285 degrees temperature. All parts will be treated so that hidden interior surfaces as well as exterior surfaces will be rust proof. The final color shall be as specified in schedule of equipment. Paint shall have an average minimum thickness of 1.0 mils.

Sub-Floor Specification

To provide a floor level with the tracks on which the ranges of shelving travel, this Contractor shall furnish a floor constructed as follows:

Framing shall be accomplished with 2" x 4" pine wood. In the direction of the tracks, the 2" x 4" shall be placed on 16" centers wherever possible. In the direction of the aisles, the 2" x 4" shall be placed on 24" centers.

The framing shall be covered with 3/4" thick plywood suitable for the application of tile or other floor coverings.

The finished floor covering is not a part of this proposal and if required, shall be furnished by others.

Where called for, main aisles shall be floored to the level of the range aisles. A suitable ramp shall be provided at the access point of an area.

ACCESSORIES

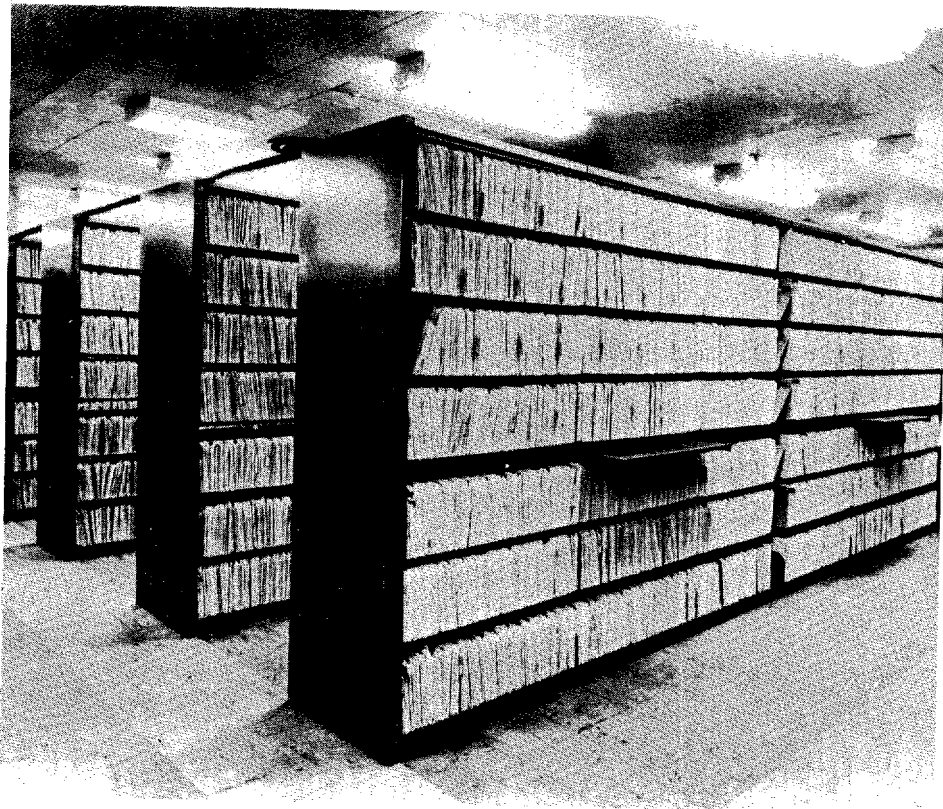
- A. Range Finders - "V" Type: Range finders shall be made of #22 gauge aluminum and formed in a "V" shape with provisions for labels on either side. Rear formation of the range finders shall be such as they can be fastened to the uprights by means of concealed screws. Furnish one for each end of bookstack range not having an end panel.
- B. Label Holders - Aluminum: Aluminum label holders shall be of standard size and attached by means of four lugs. There shall be two on each double faced end panel and one on each single faced end panel.
- C. Label Holders - Clip Type: Shelf label holders shall be of the clip type that may be fastened to the face of the shelf without tools. They shall be of aluminum. The same style label holder shall be usable on the base shelf. Provide one shelf label holder for each two shelves, including base shelf.
- D. Book Supports - Wire: Book supports shall be made of heavy gauge spring wire and formed so as to be easily adjusted and put in place in the flanges of the shelves and shall project from the shelf above. One book support, of the proper size, shall be furnished for all shelves, except the top shelf of each section. These book supports shall be nickel plated.
- E. Book Supports - Plate Type - Non-losable: Book supports shall be made of high-impact polystyrene plastic, molded in one piece, 6-1/4" high. Choice of red, black or gray color. One shall be furnished for each top shelf.
- F. Hook-on Book Supports: Where called for in the schedule of accessories, hook-on book supports shall be used in place of wire book supports and the plate type supports for shelves. Hook-on book supports can be substituted on all adjustable shelves as well as base shelves. The hook-on supports shall be made from a combination of #16 and #18 gauge steel. They shall be 6" or 9" high. Hook-on book supports shall be completely de-burred and finished to match shelving colors.

Note:

The accessory items listed above will only be furnished if specifically called for in the specifications, drawings, and/or schedule of equipment.

**Double the capacity
of your present
filing area.**

Do it again!



ESTEY OPEN SHELF FILING

Estey Corporation has designed and manufactured open shelf filing for many years for all types of firms to whom compact and efficient storage of records is vital. Their research of individual firm's needs and customizing of standard manufacture shelf units has repeatedly resulted in tremendous increase in storage capacity (more than 100%) over conventional drawer-type cabinets, substantial reduction of time in finding and filing, reduction of errors in filing.

And, the cost is only a fraction of the conventional drawer-type of equal capacity! Perhaps your problem can be solved by using Estey Open Shelf Filing!

ESTEY COMPACT

HIGH DENSITY, MOBILE FILE SHELVING

The ultimate in records-storage efficiency, Estey Compact can more than double the storage capacity of existing floor space by compacting the ranges of shelves solid except for one access aisle! Entire ranges glide easily and electrically at the push of a button to provide access to the desired range. Four complete safety measures are built into each system. Illumination is automatically controlled to light up an aisle in use.

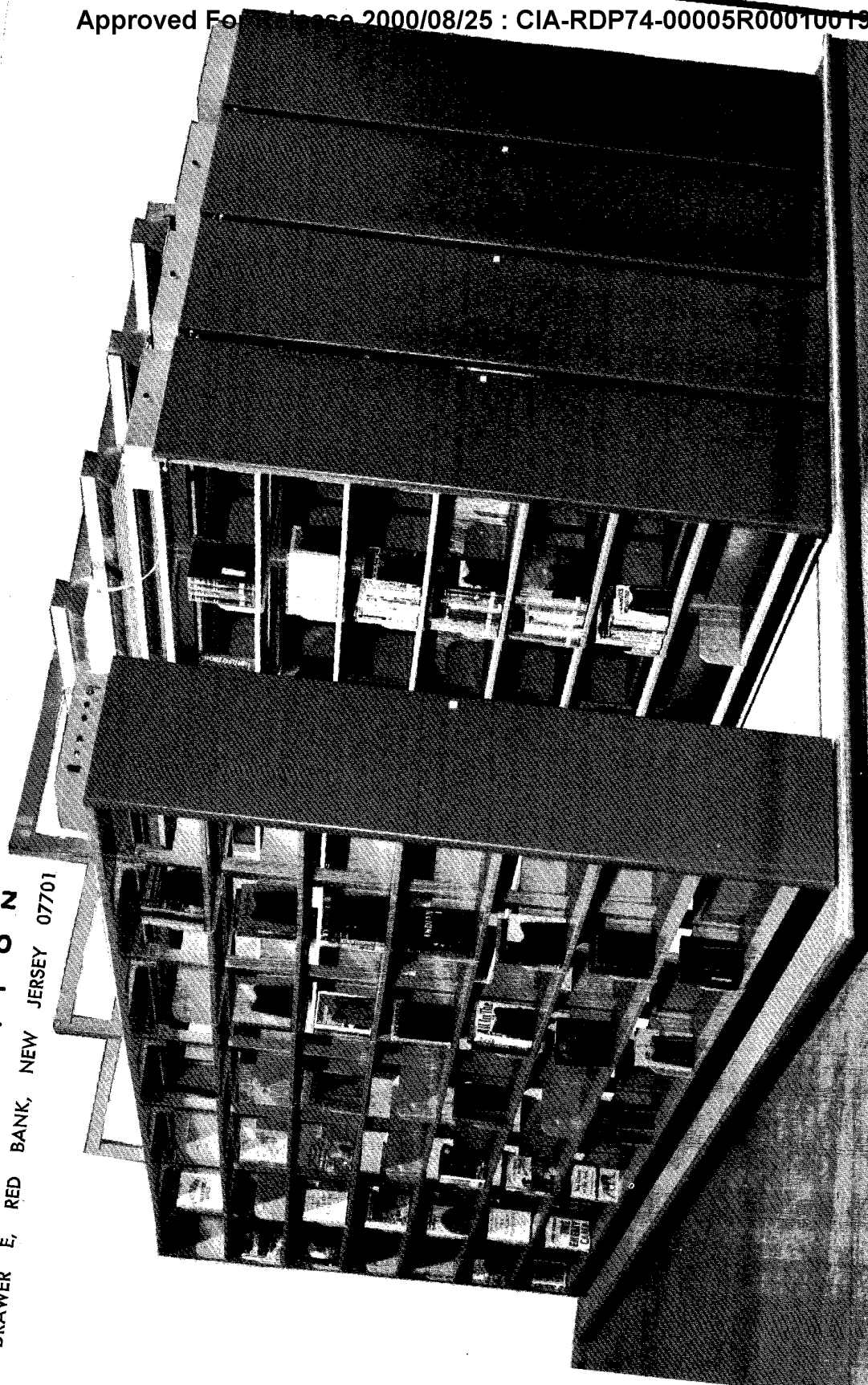
Estey Compact mobile storage shelving is also available in hand operated units. If you can't afford to have your storage areas half full of empty aisles . . . Estey Compact is the answer!

May we show you the savings to be realized by converting your present storage facilities to an Estey System?

ESTEY®

CORPORATION

ESSEX
CORPORATION
DRAWER E, RED BANK, NEW JERSEY 07701



COMPACT SHELVING

MODEL NO. 69Z1238